

## ABSTRACT

In an electric discharge machining apparatus using linear motor drive in which a machining power supply unit supplies an inter-electrode space between an electrode (1) and a workpiece (2) with a machining power and the workpiece (2) is machined while the electrode (1) and the workpiece (2) are moved in relation to each other by means of a driving device (8, 9, 10) implemented by a linear motor, a magnet supporting plate (17) for supporting a magnet (16) which is on the secondary side of the linear motor; a base plate (18) formed with at least one hole portion (18a); a spacer (19) for holding the magnet supporting plate (17) and the base plate (18) while leaving a predetermined space therebetween; and a compressor (23), a dryer (24), a lubricator (25) and a regulator (26) for injecting compressed gas (20) from the hole portion (18a) toward the magnet supporting plate (17) are provided. By making the compressed gas (20) into collision with the magnet supporting plate (17) as a collision jet, the heat conductivity increases, so that it is possible to cool the magnet (16) and the magnet supporting plate (17) efficiently with a simple configuration.

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